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**THE PARENTS'
NATIONAL EDUCATIONAL UNION.**

THE CHILDREN'S QUARTERLY.

**EDITED BY THE COMMITTEE OF THE
READING NATURAL HISTORY CLUB.
PRICE SIXPENCE.**

**"SEIZE HOLD OF GOD'S HAND
AND LOOK FULL IN THE FACE
OF HIS CREATION AND THERE IS
NOTHING HE WILL NOT ENABLE
YOU TO ACHIEVE."
RUSKIN.**

VOL XI. NO. 4.

OCTOBER, 1909.

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The Children's Quarterly.

VOL. XI. No. 4.

OCTOBER 1st, 1909.

EDITORIAL.

WITH this number of the "Children's Quarterly" we complete our eleventh volume, so it may not be amiss to look back and tell you how the Magazine originated. About twelve years ago it occurred to the Secretary of the "Reading Natural History Club" (Miss Hart-Davis) that the children ought to have a paper, published by themselves, to take the place of the written "nature letter," which at that time went the round of the members. That thought was put into action, and the result was our present publication, which has grown with the grass and now has a circulation far beyond the dreams or expectations of its earliest promoters. That it may continue to increase in the number of its friends and subscribers is the wish of us all, and with that end in view the Committee are about to make a change.

Hitherto the responsibility of the publication has fallen upon the Committee of the Reading Natural History Club of the P.N.E.U. Owing to the difficulty of finding friends in this centre now, who can give the necessary time to the work, and in view of the extended circulation and interest taken in the "Quarterly" by other clubs in the Union, it has been decided to hand over the

management to a more central and representative body. We think you will agree we have found the very thing in the Ambleside Old Students' Association, whose members have very kindly undertaken it. The very name is a sufficient guarantee that our little Magazine has been placed in good hands and is a happy augury for its increased success and usefulness.

The Editor, and those who have been associated with the Magazine since its commencement, feel that they would like to express their grateful thanks to the many contributors who have so kindly and freely helped with papers on the various subjects. Without their assistance it would have been impossible to have carried on the work, and we are happy to think that they will continue to help in the new life which the "Children's Quarterly" is beginning.

The paper on the "Cuckoo" which was crowded out of our last number is included in this one, and we want you to remember it and read it again next year, when the "sure harbinger of spring" returns. The Cuckoo round here is called a "gowk" or "gawk," not by any means a pretty name, but it is Anglo Saxon for cuckoo.

We also have the last instalment of the papers on the protective colours and shapes of animals and insects. This is no less interesting than the previous numbers, and we should be very pleased to hear from any child who has seen some of the wonderful imitations described.

Several instances of insects being protected by having the appearance of something different to what they really are, have been brought to our recollection by reading these papers. Particularly do we remember when

in Panamá a green flying insect, a species of lace fly, which so wonderfully imitated a pale green leaf with distinct veins in their proper places, and even a little piece of stalk that was really its head, that we took it up from the table and threw it off the balcony, when to our astonishment the "leaf" spread lovely transparent wings and flew away. But it left behind, alas! on our fingers, a very disagreeable odour which no amount of washing would remove, and it took several hours for the air to clear off the smell, so we had to take our afternoon tea with a knife and fork. The same thing happened with apparently a crumpled up dead leaf, a pretty reddish-brown colour, and after that we were more careful, and *things* were removed with a brush and dustpan.

Good-bye, little friends, success to the new "Children's Quarterly" and may it be more interesting than ever in the New Year.

HOW SOME ANIMALS ARE PROTECTED.

We now come to the third class of protective properties possessed by animals, properties which assist them to survive in the constant struggle for existence, viz.: "warning" characteristics. When we first began to consider the subject we found that by far the greater number of protected creatures were helped by their similarity to their surroundings. Now, there are some animals that are not only quite out of harmony with their environment, but are aggressively conspicuous. They seem to flaunt and draw attention to their presence, as if to dare one to interfere with them. It will be found, for the most part, that these creatures, although they undoubtedly

have enemies, have some powerful means of protecting themselves from them. It may be that they are armed with sharp claws to scratch and teeth to bite with, or possibly, as we have already pointed out, they may possess poisonous fangs or stings, as the Hornet and Wasp. Both these formidable insects, it will be remembered are gaudily coloured in yellow and black. Then again, some conspicuously clothed animals are capable of emitting overpowering and disagreeable smells, and the Skunk, of the New World, occurs to our mind at once as an illustration of this peculiar property. There are some species of British caterpillar which assume a terrifying or threatening attitude when their safety is imperiled, and so we find that in many ways they can make themselves obnoxious to their would-be captors—in sight, in touch, in taste, and in smell.

Thus protected, it may be asked, what is the need or where is the necessity for the occurrence of gaudy coloration? Would they not be safer still, if in addition to these defensive weapons and properties they added similarity to their surroundings? The belief of many naturalists is that the retention of these conspicuous markings serves as a warning that they are not to be interfered with or disagreeable results will follow.

Doubtless the experience of generations of their enemies has taught them that such showy creatures should be avoided, and that whenever they see this danger sign of bright colour or fearsome attitude they let them alone. In this way they would be safer than if they were less noticeable and consequently laying themselves open to attack in mistake for edible or harmless species. However this may be, it has been

found by a long series of experiments, that, as a general rule, these very noticeable creatures are distasteful. This has been proved to be true of such caterpillars as those of the Gooseberry Moth, and the Cinnabars and Buff-tips and many others. Birds, lizards, and even frogs have been found to persistently refuse them, even though almost starving, though they will eat with much relish, other species not so coloured. We shall remember that, in our last paper, we mentioned the "mimics" which escaped because they closely resembled the obnoxious species, although they were not disagreeable or distasteful themselves.

Nature teaches us the survival of the most fit, that is to say, the persistence of those best adapted to their condition of life. These conditions are very varied and the means available are varied also. We have seen that many weak and defenceless creatures survive because they escape observation, others, better adapted to take care of themselves, get on better by hanging out, as it were, a danger signal, and so live by the very opposite method of being conspicuous. Between these two classes come the comparatively few which are weak but escape by sailing under false colours and are mistaken for being stronger than they really are. Each of these methods will be found to present to us some most interesting problems in our studies of animals. If you observe, as you go through life, you will come across countless cases, which will fall under one or the other of the classes we have drawn your attention to.

M.E.G.

A NOTE ON THE CUCKOO.

We are indebted to Dr. Norman Joy for the following interesting account of the cuckoo, which he has already published in the "Bradfield College Magazine":—

"It is curious how many phenomena there are in Nature, occurring yearly or even daily, which are very rarely observed by anyone. It is a well-known fact that the Cuckoo habitually puts its eggs into another bird's nest to be hatched by that bird; yet it has very rarely indeed been observed to do so, and it was for a long time disputed whether the egg was laid in the nest or carried in the beak to the nest, though the latter was eventually proved to be the case. When the egg hatches, which it does at the same time as the other eggs, it has been long known that the young cuckoo manages to get rid of the other young birds within 48 hours; yet it is quite rarely that this most interesting phenomenon has been watched.

"When I found this year a cuckoo's egg in a hedge-sparrow's nest close to my garden, I determined to watch it carefully. On the evening of the day after the young birds had hatched, I found the young cuckoo alone in the nest, a naked, blind, and helpless-looking little murderer. I knew the young hedge-sparrows could not have been turned out long, and I soon found one of them still alive, stuck up in the bush below. It was very little smaller than the young cuckoo. I put it back into the nest, and the cuckoo soon discovered that it had a companion again and became restless. The first point to notice was how the cuckoo began to get the hedge-sparrow on to its comparatively broad back. This was done by the

cuckoo lying on its side, with its head towards the other bird, and then turning over again and wedging its side underneath it. Then began the lifting part of the business. The cuckoo spread out its long leg to get a good purchase on the sides of the nest, stretched its little stumps of wings backwards to prevent the hedge-sparrow from falling off sideways, and then stood on tip-toes; but there was one weak point. The young cuckoo has such a large heavy head that it is unable to lift it up and so prevent the other young bird from falling forwards; and in this case this happened. As the cuckoo seemed to have had enough work for one day, I took the hedge-sparrow home and kept it alive the whole night on a hot water bottle.

"The next morning I put the hedge-sparrow back in the nest, and within two minutes of the time that the cuckoo started turning it out it was clear of the nest. This time the cuckoo got the young bird well on to its shoulders, and with one great exertion lifted it right on to the edge of the nest. Now I wondered how it got the young bird quite clear of the nest; but I found this was simple enough. The victim did it by its own struggles. However the cuckoo had to make sure that it did not struggle back into the nest, and it was one of the most extraordinary parts of the whole business to see it wriggle up the side of the nest backwards, plant its legs wide apart almost on the very edge of the nest, and wave its wings about behind its back. Here it remained for nearly a minute, looking every second as if it would tumble backwards, and eventually it let itself gently down again into the nest, with what I almost fancied to be a wicked smile on its face!"

THE RELENTLESS SEA.

I am sitting at a table under a window that faces to the sea. A fiery glow in the west shows that the sun is setting, but the whole sky is covered with driving clouds, and night is falling an hour before its time. The window is tightly shut, and the wind shrieks through the joints in the frame and drives the fine, wet mist through every crack. The sea is a hundred yards or more away and fifty feet below the house, but the upstairs windows are coated with the salt spray.

I cannot see far out over the troubled water—only a broad white streak of foam, and then the grey sea-mist, made lurid by the half-hidden sunset glow. The great breakers come in toppling succession, the hindmost line urging forward the ridges in front, and frothing savagely in their impatience.

One after another the waves dash themselves recklessly on to the bare, black rocks, and as they retreat leave a series of rushing cascades from every point and a creamy mass of foam pulsating at the cliff's foot. A black cormorant, looking like a wild duck, with long neck and wings set far back, is skimming the water, never touching a crest, but never more than a foot above the surf.

All this has been going on for two days, and bids fair to continue throughout the night. Fierce squalls of rain—more like spray torn from the whirling clouds that seem to mingle with the sea—come screaming against the window every now and then, while the howl of the wind and the surging roar of the breakers leave a feeling of dull, monotonous throbbing in my brain.

At one point is a little patch of shingly beach, and the great rollers catch up the rounded pebbles,

hurling them against the surrounding rocks like so much shrapnel. The roar of water is here mingled with the click and grating of the stones as they grind one upon the other. Great brown islands of slippery seaweed, torn from their moorings on the rocks, are floating among the breakers, and are from time to time stranded on the beach, only to be dragged back by the next wave, and battered on the shingle.

The limpets have all drawn down their shells tightly to the rocks, and are waiting for a lull in the storm to resume their wanderings for food. Each limpet shell, being shaped like a pyramid wards off the incessant blows of the breakers, and so the tender animal within can rest secure. Unfortunate jelly fish come drifting in helplessly, to be dashed to quivering fragments on the sharp rocks; and a dead sheep is bumping round and round a rock pool.

The only things that are not suffering, as far as appearances go, are the limpets, and the rocks to which they cleave. There are plenty of scars on the rocks where limpets have made their resting places, and have since become resolved into the structure of some other part of the universe, either by the appetite of a fish, or by the slow process of decay after death. More limpets will grow, however, and so the rocks will never lose their outer covering of shell.

But what of the rocks? They are made of black basalt—old lava flows of bygone days that have welled out, in glowing streams, red-hot and all-devouring, over undulating chalk downs like those of Berkshire and Wiltshire. The lava cooled, became solid rock, and great cracks were formed in it. You know how mud cracks

when it is dried—when the water is evaporated from it and it shrinks. When hot substances cool they shrink too, so you see why the basalt rocks cracked.

Now watch that wave that is curling over to the reef in the fading light, tossing its broken crest upwards into the driving gale. A rush and roar up the black, shining slopes, and a dull crash as the shattered water strikes the straight face of the cliff. The wave dashes into every crack and crevice in the rock, and tends to burst the sides of the crack apart. The next wave follows in the same path, and so the battle goes on.

Slowly the crack is widened into a fissure, and the fissure into a long tunnel or cave. The sea rushes into the cave with the force of the gale behind it, and crushes the imprisoned air in the dark recess. This air behaves like the air in an air-gun. The roof of the cave cannot stand the oft repeated pressure, and one day a hole is blown in the vaulted arch, and spray comes tearing out through the rift like smoke. Then the whole roof may fall in, and instead of a small crack in the massive rocks we find a long gully winding far inland. This gully will be widened by the slow grinding of the waves, and the battering of the broken fragments of rock that form its floor, and may in time become a bay.

Of course it takes a long, long time for the sea to break down the cliffs like this, but it is never tired, though often baffled, and nothing can resist such endless attack. So you see that even the rocks will yield to the sea, and the limpets which cling to them will be crushed in the ruin of their homes. Nothing can resist the sea for ever, and every year thousands of tons of the land, and millions of animals and plants fall before its relentless attack.

New rocks are built up out of the fragments of the old ones and new animals and plants are born to take the place of their parents, but that is another story.

H. L. HAWKINS.

ECHOES OF SPRING.

The air has a touch of the Autumn about it on this mild September day, and the woods are tending towards the "sere and yellow leaf." The rowan berries, of which there has been an enormous crop this year, are fast disappearing under the repeated onslaught of starlings, blackbirds, song and missel thrushes. The hedgerows are laden with blackberries and red with haws, the result of a Spring season unsurpassed for wealth of blossom, and among the fast withering herbage, berries of white and black bryony, speak to one unmistakeably of the coming Winter. A few cold nights have "crimson'd the creeper's leaf across," and already there has been a preliminary fall which has necessitated the gardener having an extra sweep-up. In fact, after a very unusual Summer, with lack of sunshine and a low temperature, we find ourselves almost face to face with Winter before we realize that the season (so far as the calendar is concerned) has come and gone.

Passing through the gardens and along the road to the village to-day, one came across several faint echoes of a gone-by Spring-time. A great tit, just recovered from his moult and busy on the seeds of a huge sunflower, was now and again giving forth its peculiar saw-like note, so characteristic of the early

Spring, when it is calling to its mate. The passionate coo of the woodpigeon from the elms, was very suggestive of fresh budding rather than fading leaves. A little searching soon revealed the fact that this love moan was no idle tale, for lo! a bird was sitting placidly on her nest while her mate brought fresh sticks, which she carefully arranged round the two white eggs it contained. And this, nearer the end than the beginning of September! One wonders how the young will fare—if they are ever hatched—for the parent birds incubate for seventeen days, and it will be quite November before the babies can fly!

Two chiff-chaffs are answering one another from the trees in the shrubbery. Not exactly with the bold, clear-cut note with which they herald the Spring, but with a good imitation of it, though somewhat faint and shy. They are on their way to Summer climes, having reared (let us hope) their family successfully and then got through that tedious moult of summer plumage. But they seem to give us a reminder, not only of what was but what will be, when they return next Spring, in this feeble recitation of their little song. A willow wren, too, began to run down his scale of notes, but alas! he had either forgotten them or felt unequal to the task before he had got through half of them.

Passing through the village the eye rests upon a very unusual sight, a laburnum tree in full blossom. Not here and there a spray—as more than one pear tree in the orchard shows just now—but a whole tree full of golden chains. Did this tree fail to blossom at the proper time in the Spring or has it

lost count of all time, and reckoning the past Summer to be a mild winter, has broken forth on the return of sunnier days?

Last week, in the garden, we picked a dozen primroses, some of them quite as fine as any in April, though looking sadly out of place among scarlet geraniums and purple asters.

There is one wild flower which, though naturally blossoming in September, seems always to remind one of very early Spring. On my table lies a box of Autumn "crocus," quaint mauve flowers with no sign of leaf to relieve them. This particular batch came from Somersetshire fields, but they occur in several other parts of the country, York, Saffron Walden, and sparingly, in the Thames Valley. Their leaves and seeds will come up in the Spring when our own garden crocuses are flowering. There is a difference between these and the real crocus, for the specimens before me possess six stamens each and I believe our garden form has but three.

Butterflies, those "children of the sun," may seem to belong to no season but that in which the sun shines. Yet, as one passes along the herbaceous border, several species are noticed which will be the first out from their Winter hiding place to welcome the returning Spring. On a patch of purple Michaelmas daisy there are two magnificent Red Admirals fanning their wings up and down and sipping nectar. They seem to divide their attention between the flowers and a few fallen Victoria plums, which have been left behind for the wasps after the crop was gathered in. The black and scarlet of their upper wings and the

snowiest of white spots in bold contrast, cannot fail to arrest attention, and then, as we look, the lovely mosaic of their underside comes alternately into view. The Peacock butterfly, of which there are several about, has but a dark and uninteresting underside and, therefore, only appears to advantage when its rich upper surface is exposed and its four "eyes" are visible. Several small Tortoiseshells are flitting about and a Sulphur butterfly, one of the very first to emerge in the new year. The few "Blues" which remain and the small "Coppers" will not live through the Winter, and consequently they suggest nothing of the Spring in their appearance.

Every season, to the naturalist, has its own peculiar charm, and perhaps we find those charms and beauties heightened and intensified when a little of one season seems to stray into another. The reddening leaves and ripening seed and berry are all beautiful in their time, but one feels grateful for sights and sounds that bring to remembrance former things, even

"In looking on the happy Autumn fields
"And thinking of the days that are no more."

PORTFOLIO OF PAINTINGS.

We have had sketches from thirty-two members this time. There was some good work, but we regret to say a great deal that looked as though very little trouble had been taken. Many of the carrots were exceedingly good, but one or two of you made them appear as though the fact of lying on the table or hanging against the wall flattened them that side. Some of them had shadows drawn in a straight line down one side. Now, carrots have indented lines round them, which break up the line of shade and give much more character, and make them more interesting to paint than if they were smooth.

Always paint things larger than life if possible, as it gets you into a much better style, and remember the three first rules to think of in painting are, the "high light, shadow, and cast shadow." This last is the shadow cast by the object on table, floor, or anything it is against. Your picture will begin to look *round* directly you pay attention to these three simple rules..

The reason why so many of your children and maids washing clothes or hanging them up look so very unreal, is because they have no shadows near their feet; those that are indoors should have also quite a distinct shadow one side, away from the window.

As you will notice, the future management of the "Children's Quarterly" has changed hands, so also you will have a new critic. Therefore, please note the address to send your sketches to.

Subject I.—Any bird or birds. If you do more than one, let them be all one kind, and as large as the paper will allow. Do not do tiny sketches of only three or four inches across.

Subject II.—Design for a cover of a book. Do this in colour, just as you would wish the book to look if actually bound up with your design on it, and do it large.

Subject III.—A fireplace. Do this from a little to one side (don't sit right in front), then you will try and get the proper perspective of the mantelpiece, the lines of the bars, and the fender.

RULES.

I.—The Portfolio must be kept only one night, the date of receiving and sending on entered, fine 6d. for breaking this rule. A post card must be sent saying it has been despatched.

II.—No Painting must exceed 15-in. by 11-in.

III.—Paintings must be kept flat.

IV.—Name, address and age must be put on the back.

V.—All work must be the member's own doing, and not copied, but advice may be freely given.

VI.—Subscription 1/- for each family, due in January; may be paid with the subscription to the *Quarterly*.

VII.—The Portfolio can only be sent to the home address of members, and not to schools.

VIII.—Members leaving home temporarily must make arrangements for the Portfolio to be forwarded on to them. Any change of address must be sent on a post card as the list in the Portfolio may not be back in time. All paintings received from October to October are returned in January.

Please read rules 6, 7, and 8 carefully again, a good many members disregard these altogether, thereby causing some amount of worry.

Send the paintings, by December 1st, to Miss K. Loveday, c/o H. M. Plumptre, Esq., Fredville, near Dover, and also your subscriptions to the same address.

CLUB NEWS.

The Excursion to Wellington College woods on Saturday the 18th September, the last for this season, took place in ideal weather, but unfortunately only a very few members turned up for it. Those who did go had a very pleasant time. As usual at this season of the year, the fungi were abundant, the scarlet specimens being very beautiful. Amongst plants found were Sundews, Hydrocotyle and Illecebrum, and of course the various heaths and gorse. Hazel nuts and blackberries were much enjoyed and the mosses after the wet summer were in perfection. Our old friends, the ants, which are always found there in large numbers, had been very busy with their nests and had laid up large quantities of their eggs.

CORRESPONDENCE.

Maggie writes: "I have been reading the chapters in our magazine about animals being protected, and I want to tell you about a curious bird we saw one evening when we were out for a walk. It was on a heath and it lay on the path looking *just like a piece of bark*, and did not get up until we were quite close. It then noiselessly flew on a little farther and settled down again so that we had a good look before it went away beyond our view. A man told us it was a dor hawk and was the same bird that makes the peculiar wheel-like noise all night long.